

March  
2010

## RENTON AIRPORT *Clayton Scott Field*



# Ground Vehicle Operating Rules







*McDonnell Douglas DC-3 (Photo used under license - TM & C Boeing.)*

## *Welcome to Renton Airport*

Accidents between ground vehicles and aircraft occur at airports around the world. To reduce accidents and liability, the Renton Airport has developed this Ground Vehicle Operations Handbook to educate drivers on the safe operation of vehicles in the Aircraft Operations Area. Please keep this manual readily available and use it as a reference guide.

Questions or clarifications about airport operations are always welcome. Please feel free to stop by the Airport Office at the base of the Air Traffic Control Tower during our normal business hours or call us at 425-430-7471.

By following the procedures outlined in this book you are helping to create a safer and more enjoyable environment for all users of the Renton Airport.

*(Cover Photo: Clayton Scott Memorial Statue, located at south Airport Entrance)*

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## Purpose and Objectives

The purpose of the ground vehicle training program is to promote safe airfield driving through education. The program provides new and refresher training for employees, tenants, and other users of ground vehicles on this airfield. The primary objectives of this program are to:

- Introduce and explain the procedures specific to Renton Airport for operating ground vehicles;
- Identify and describe movement areas, non-movement areas, runways, and taxiways;
- Identify and describe airfield signs, markings, and lighting at Renton Airport;
- Identify and describe the Vehicle Drive Lane and the runway hold short lines;
- Describe the appropriate radio procedures while operating within the Movement Areas; and
- Outline the specific policies regarding equipment use on fueling and airport maintenance vehicles.

# General Airport Areas

Specific terms are used to describe certain areas on the airport. You must be familiar with these terms to determine what requirements you must meet to enter and operate in these areas.

## **Areas on the Airport / Air Operations Area**

The airport is divided into two general sections termed airside and landside. The landside area is the area of the airport that is outside of the security fence and is generally open to the public. The airside, which is referred to as the Air Operations Area, encompasses all areas within the security fence and is not open to the general public. The Air Operations Area is further divided into movement and non-movement areas.

## **Movement Areas**

The runway, taxiways, and the taxiway object free area are the only movement areas on the airport. The Renton Air Traffic Control Tower controls the movement areas on the airport. The Control Tower transmits on two frequencies, Tower (**124.7 MHz**) and Ground (**121.6 MHz**). Operating a vehicle in the Movement Areas requires authorization from Renton Ground, when open, and use of a flashing amber beacon. At all times when the Control Tower is closed, intentions must be communicated over the Common Traffic Advisory Frequency (Same as Tower Frequency, 124.7 MHz).

**Remember**, to operate a vehicle in the movement area you **must** have a flashing amber beacon mounted on the uppermost part of your vehicle and be in contact with Renton Ground on 121.6 MHz.

# General Airport Areas – Continued

## **Non-Movement Areas**

The non-movement area consists of the areas on the Airport that are in the Air Operations Area but neither require you to be in contact with Renton Ground nor have a flashing amber beacon (designated airport vehicles excluded). All areas on the airfield minus the taxiway object free area, the taxiways, and runway are considered non-movement areas. These areas include ramps, aprons, and airside parking areas. Designated airport vehicles must have a flashing amber beacon while operating within the security fence. See additional details on page 15.



# Taxiway Markings and Lighting

Aircraft get to and from parking areas and runways via taxiways. Taxiways have yellow markings and are outlined with blue lights. Each taxiway is labeled with a letter and those letters are part of a phonetic alphabet. Meaning, instead of being referred to as Taxiway “A,” the taxiway would be referred to as Taxiway Alpha.

Clearance must be obtained from Renton Ground prior to entering the Taxiway Object Free Area. Think of it this way, if you are on the west side stay west of the yellow lines and if you are on the east side stay east of the yellow lines.





# Taxiway Markings and Lighting – Continued

**Taxiway direction and designation signs** have a yellow background with black lettering. These signs indicate where that taxiway is located from your present position.



A **taxiway location sign** has a black background with yellow lettering. This sign identifies the taxiway you are presently operating on.



**Taxiway and runway identification signs** may be used together to provide directional information to the pilot or driver. For example, the sign below indicates you are currently at the Delta intersection of Taxiway Alpha facing Runway 16-34. You must hold short at the Runway Hold Line if you plan on entering the runway and receive a clearance from Renton Ground before proceeding.



## Runway Paint Markings

Runway markings are white. Runways have numbers on each end and a broken white stripe down the center. The numbers on each end of the runway identify the magnetic heading of the runway. By adding a zero to the runway number you will know its compass heading. For example, Runway 16 equates to approximately 160 degrees. Note that at the other end of the runway the number is 34 (340 degrees), which is 180 degrees in the opposite direction of Runway 16.



# Runway Markings and Lighting

## Runway Lighting

Runways have white lights along the pavement edges. The exception is that the edge lights on the last 2000 feet of the runway are white on one side of the light cover and amber on the other. Runway threshold lights are additional lights that are positioned across the ends of each runway to indicate where the runway begins or ends. These lights are green on one side of the light cover and red on the other.

## Runway Hold Line

A Runway Hold Line denotes where the taxiway ends and the runway begins. It consists of two solid yellow stripes followed by two broken yellow stripes. If you come to a runway hold line – **STOP!** You must receive clearance from Renton Ground before proceeding onto the runway when the Renton Air Traffic Control Tower is open. If the Control Tower is closed, you must:

- Wait for any aircraft in the pattern to land and exit the runway prior to proceeding;
- Ensure that your movement onto the runway will not interfere with aircraft taxiing, landing, or taking off; and
- Make a radio announcement of your intentions to cross the Runway Hold Line onto the runway. Announcements should be made on 124.7 MHz when the Tower is closed.



## Vehicle Restricted Areas

Vehicle Restricted Areas have been established at Renton Airport to provide increased security for the Boeing Company's production facility and also to decrease runway incursions (unauthorized runway crossings). Vehicle Restricted Areas are marked with stop signs. If you come to one of these signs, **STOP!**

There are two restricted areas. The first is located north of the last row of hangars at the end of East Perimeter Road. This access road is for airport maintenance vehicles or Boeing service vehicles only.

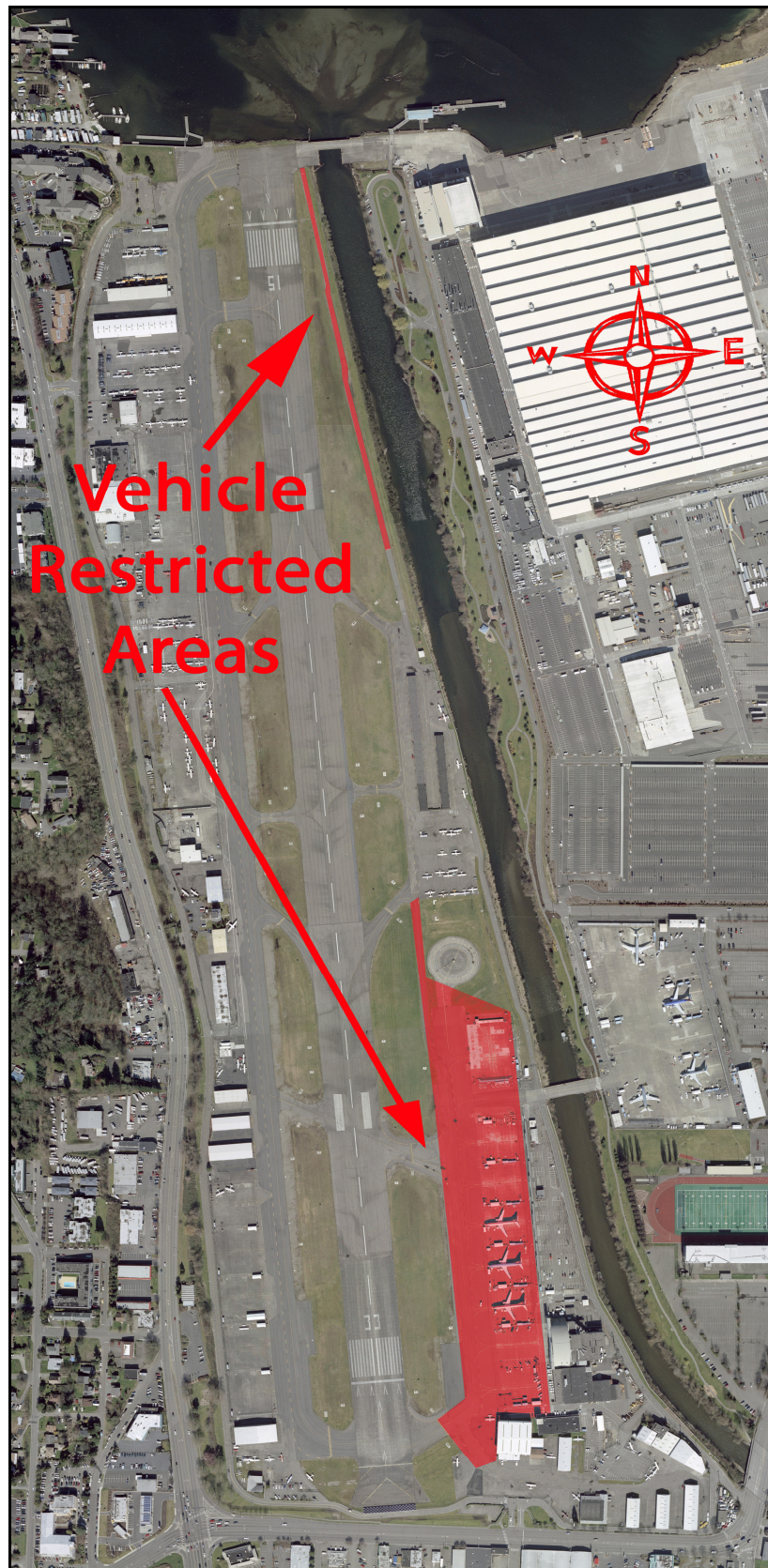
The second restricted area is Taxiway Bravo, from the compass pad south to the large Aerodyne hangar located at 300 Airport Way. This area is off limits for all non-Boeing vehicles. Float trucks and airport maintenance and management vehicles may proceed on the Taxiway Bravo if instructed by the Tower.

Any unauthorized drivers caught driving in the Vehicle Restricted Areas will have their access privileges revoked by the Airport Manager or his/her designee.





# Vehicle Restricted Areas Map



## Vehicle Drive Lane

The Vehicle Drive Lane runs most of the length of the airfield on the west side. The Vehicle Drive Lane is the only designated drive lane on the airport. Vehicle traffic must use the Vehicle Drive Lane where it exists.

Where the Vehicle Drive Lane is not yet present, or if portions of the lane are blocked, vehicle traffic must stay as far away from the Taxiway Object Free Area as reasonably possible. Be cautious while using the Vehicle Drive Lane around Lane Hangars and the Pro-Flight Maintenance hangar. Also, be alert for aircraft crossing the Vehicle Drive Lane to enter the taxiway.

No vehicle may pass in front of an aircraft that is positioned on the ramp waiting to taxi. **All aircraft have the right-of-way over vehicles** (Advisory Circular 150/5210-20). If you see an aircraft that appears poised to taxi across the ramp, you must wait for that aircraft before continuing to your destination.





# Renton Air Traffic Control Tower

When open, the Renton Airport Air Traffic Control Tower directs all vehicle traffic on the movement area. The Control Tower is open 365 days per year. Hours of operation are 7:00 am to 8:00 pm from October 1 to April 30, and 7:00 am to 9:00 pm from May 1 to September 30. When the Control Tower is closed, there are different requirements for communicating your intentions while driving on the movement area.

## **Radio Communications – Tower Open**

When the Control Tower is open you must contact Renton Ground on 121.6 MHz for the following:

- Approval prior to moving aircraft or vehicles onto a movement area; and
- Advisories prior to moving vehicles into a Vehicle Restricted Area.

## **Radio Communications – Tower Closed**

When the Renton Air Traffic Control Tower is closed, the airport becomes an uncontrolled field. The procedure during these hours is to monitor the Common Traffic Advisory Frequency on 124.7 MHz and announce your intentions to enter any movement area.

You must both announce your intentions prior to entering the movement areas and upon exiting the movement areas.





# Renton Air Traffic Control Tower – Continued

☆☆☆☆☆☆☆☆ **Important!** ☆☆☆☆☆☆☆

When the Renton Air Traffic Control Tower is closed, vehicle operators must monitor the Common Traffic Advisory Frequency (124.7 MHz) and make an announcement prior to entering the movement areas and upon exiting the movement areas.

## Rules for Radio Communications

The following are requirements for radio communications while operating a vehicle in the movement area.

### **Make Sure To:**

- Transmit on the appropriate frequency;
- Listen to the frequency prior to transmitting;
- Use appropriate radio phraseology;
- Use standard vehicle identification phrases;
- Advise on initial contact your request – who you are calling (Renton Ground), who you are, where you are, and what you want to do; and
- Be familiar with the locations of the movement and non-movement areas.

# Loss of Radio Communications

## Non-Movement Areas

If you are only operating in the non-movement area then two-way radio contact with the Renton Air Traffic Control Tower is not necessary. If you have a radio installed in your vehicle and it becomes inoperable you may continue to operate in the non-movement area only.

## Movement Areas

If your radio becomes inoperable before you proceed into the movement area then do not continue. Instead, return the vehicle for radio repairs. If you are on the movement area and lose radio contact with Renton Ground, you should do the following:

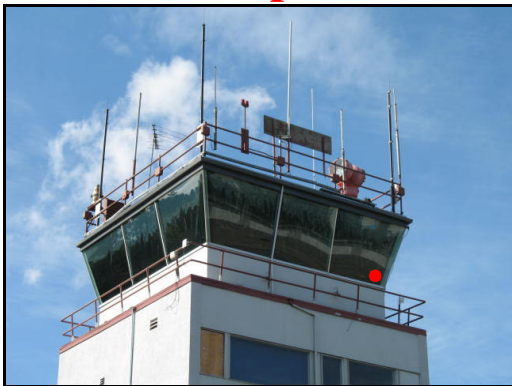
- Get off the movement area immediately!
- Turn your vehicle toward the Control Tower and flash your headlights.
- Look up at the Control Tower cab for light gun signals.
- If the Control Tower responds with a **steady red** signal you must STOP!
- If the Control Tower responds with a **steady green** signal you may proceed.

*If you have a cell phone, you may call the Control Tower at 206-764-6632 for instructions as an alternative.*

## Light Gun Signals

Color and Type of Light Signal	Movement of Vehicles, Equipment, and Personnel
<b>Steady Green</b>	Cleared to Cross, Proceed
<b>Steady Red</b>	<b>STOP!</b>
<b><i>Flashing Red</i></b>	Clear the Taxiway or Runway
<i>Flashing White</i>	Return to Starting Point
Alternating <b>Green</b> and <b>Red</b>	Exercise Extreme Caution

**Stop!**



**Proceed**



# Driving on the Airport

At Renton Airport, non-movement areas are ramps and aprons. The Renton Air Traffic Control Tower does not control these areas. Drivers should be especially cautious when operating on the non-movement areas and be on the look out for other vehicles, people, or airplanes.

## **Personal Vehicles on the Airside**

Personal vehicles not equipped with a beacon or a two-way radio are only allowed to operate in the non-movement areas. Use of the Vehicle Drive Lane is required where it exists to ensure proper separation from airplanes and other vehicles. Be cautious. Look around for airplanes that are preparing to start or that are beginning to taxi. Always yield to aircraft by moving right where able.

## **Airport Vehicles on the Airside**

Designated airport vehicles include float trucks, fuel trucks, airport or Boeing maintenance trucks, Boeing tugs, Boeing service vehicles, fire vehicles, and airport management vehicles. All designated airport vehicles must use a flashing beacon while operating in either the movement or non-movement areas. Designated airport vehicles are required to have fully functional radios, and operable lights, including parking lights, headlights, and taillights. All designated airport vehicles must use the Vehicle Drive Lane where it exists except in cases where doing so could harm people, parked aircraft, or vehicles. Fire vehicles, Boeing fuel trucks, and float trucks may deviate from the Vehicle Drive Lane as needed for added safety.

## Foreign Object Debris / Damage (FOD)

**Foreign Object Debris** is any loose item in an airport environment that could be ingested by aircraft engines or could strike an airplane and create damage.

**Foreign Object Damage** is defined as aircraft engine damage due to ingestion of objects and / or debris. FOD incidents fall into two categories.

**Major FOD:** Damage to an engine that exceeds serviceable limits and requires major repair or replacement of components.

**Minor FOD:** Damage to an engine that exceeds serviceable limits but is authorized for repair at the local level of maintenance.

Jet engines ingest huge amounts of air. Garbage and debris can also be sucked into the engine causing extensive and catastrophic FOD. Debris can also puncture tires, dent or puncture propellers or wings, or cause other damage.

Nuts and bolts, tools, rocks and pebbles, or any garbage can be classified as or cause FOD. Make Renton Airport a safer place by placing all garbage in a sturdy, covered container that cannot be blown over by wind or jet blast. Also, please pick up any debris you find on the ground.



## Foreign Object Debris – Continued

Finally, avoid tracking mud and gravel onto pavement surfaces. If you must drive on an unpaved surface, stop your vehicle and check your tires once you leave that area. Remove any rocks that are lodged in the treads. If you discover a serious debris problem, report it to the Airport Office at 425-430-7471.

Keep the cab of your vehicle clean as garbage can blow out of the vehicle when the doors or windows are open. Place garbage in a covered container so that it does not attract birds. In addition to scraps of food, nesting birds are also attracted to shiny objects, string, wood scraps, and other garbage on the airport. Birds pose a serious problem at airports because they may be ingested or struck by an aircraft. Help reduce the presence of birds at Renton Airport by keeping the premises as clean as possible.



## Other Airport Information

### Float Truck Operations

When retrieving floatplanes from the floatplane ramp, back up towards the west to avoid entering the Runway Safety Zone for Runway 16.

### Accident Reporting

Any person involved in an accident, as a participant or as a witness, shall report the accident immediately to the Renton Police and/or Renton Fire and Emergency Services via 911. You must also notify airport management at 425-430-7471.

☆☆☆☆☆ **NOTE!!!** ☆☆☆☆☆

Dial 911 and 425-430-7471 to report all emergencies, accidents, hazardous material releases, and fuel spills.

### Watch Your Speed

The speed limit on the ramp is 15 MPH except while driving near aircraft when the speed limit decreases to 5 MPH.

### Approach Parked Aircraft With Caution

If you must drive near a parked aircraft, approach the aircraft slowly while remaining far enough away so that you do not block its path or the path of other vehicles. **The speed limit while driving near aircraft is 5 MPH.**

### Do Not Leave A Vehicle Unattended

No disabled vehicle may be left unattended or abandoned in the Air Operations Area. If your vehicle breaks down, you must remain with it and call for assistance.

## Other Airport Information – Continued

### **Use A Ground Guide**

When backing trucks or equipment in close proximity to other equipment, aircraft, or vehicles, a ground guide is strongly recommended.

### **Use Parking Brake And / Or Wheel Chocks**

If you must park a vehicle in the Air Operations Area, you must always set the parking brake or use wheel chocks to prevent the vehicle from rolling into aircraft or other equipment.

### **Be Aware of Jet Blast and Prop Wash**

You should be aware of the effects of jet blast and prop wash. An operating jet engine can easily produce a blast of hot air strong enough to knock you to the ground or burn you. There have been several documented cases where vehicles have been overturned by jet blast. Prop wash can also knock you down or throw debris in your face. Therefore, remain clear of areas behind operating jet or propeller engines.

Also, stay clear of jet engine intakes and propellers. Even experienced mechanics have been severely injured and even killed by them. A propeller can turn spontaneously and a spinning propeller is nearly invisible. An indication that an engine is running, or about to start, is a flashing beacon or strobes on the aircraft. Also, look for pilots sitting in an aircraft as a sign that an engine start is imminent.

### **Reporting Hazardous Material Spills**

If a hazardous material release occurs, you must contact Renton Fire and Emergency Services via 911, **and** the airport office at 425-430-7471.

## Other Airport Information – Continued

### **Avoid Blind Spots**

Blind spots are areas on the Air Operations Area that are not visible from the Air Traffic Control Tower. Use extreme caution when operating in these areas and always yield to aircraft. These areas include:

- The area near the Ace Aviation and Aerodyne buildings;
- The area next to the City Hangar (south of the Tower); and
- The area between the Northwest Seaplanes hangar and the hangar building at 850 West Perimeter Road.

### **Low Visibility Driving**

It is extremely easy to become disoriented when driving on the airfield in rain, fog, or at night. Drive slowly and watch for signs and markings. If you are unfamiliar with the airport and the office is open, stop in and ask for directions to your destination. If the airport office is closed, drive with someone who is very familiar with the layout of the airport.

### **While driving on the airport remember to use these precautions.**

- Do not go onto the airfield unless it is absolutely necessary.
- Give yourself plenty of time to get to your destination.
- Make sure the vehicle's flashing amber beacon is operating properly.
- Before you proceed, test the headlights, windshield wipers, and brakes on your vehicle.
- The maximum permissible speed is **15 MPH or 5 MPH** if you are in close proximity to aircraft.

## Appendix 1 - Phonetic Alphabet

Always use the International Phonetic Alphabet when communicating with the Control Tower.

<b>A</b>	<i>Alpha</i>	<b>T</b>	<i>Tango</i>
<b>B</b>	<i>Bravo</i>	<b>U</b>	<i>Uniform</i>
<b>C</b>	<i>Charlie</i>	<b>V</b>	<i>Victor</i>
<b>D</b>	<i>Delta</i>	<b>W</b>	<i>Whiskey</i>
<b>E</b>	<i>Echo</i>	<b>X</b>	<i>X-Ray</i>
<b>F</b>	<i>Foxtrot</i>	<b>Y</b>	<i>Yankee</i>
<b>G</b>	<i>Golf</i>	<b>Z</b>	<i>Zulu</i>
<b>H</b>	<i>Hotel</i>	<b>1</b>	
<b>I</b>	<i>India</i>	<b>2</b>	
<b>J</b>	<i>Juliet</i>	<b>3</b>	
<b>K</b>	<i>Kilo</i>	<b>4</b>	
<b>L</b>	<i>Lima</i>	<b>5</b>	
<b>M</b>	<i>Mike</i>	<b>6</b>	
<b>N</b>	<i>November</i>	<b>7</b>	
<b>O</b>	<i>Oscar</i>	<b>8</b>	
<b>P</b>	<i>Papa</i>	<b>9</b>	<i>Niner</i>
<b>Q</b>	<i>Quebec</i>	<b>0</b>	
<b>R</b>	<i>Romeo</i>		
<b>S</b>	<i>Sierra</i>		



## Appendix 2 – Phone Numbers/Information

<b>Renton Airport Office</b> 616 West Perimeter Road, Unit A Renton, Washington 98057  <i><a href="http://www.airport.rentonwa.gov">www.airport.rentonwa.gov</a></i>	425-430-7471
Renton Air Traffic Control Tower	206-764-6632
Boeing Fire Department	425-237-2222
Renton Police or Fire and Emergency Services	911





# Drive and fly safely!



*Information courtesy of the Renton Airport Staff and the Renton Air Traffic Control Tower*